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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/534,221

10/24/2005

Klaus Frommann

HM-625

8464

40570

7590

08/10/2010

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EXAMINER

FOGARTY, CAITLIN ANNE

ART UNIT

PAPER NUMBER

1793

MAIL DATE

DELIVERY MODE

08/10/2010

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/534,221	Applicant(s) FROMMANN ET AL.	
	Examiner CAITLIN FOGARTY	Art Unit 1793	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 24 May 2010.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1,3,4,8-11 and 14 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1,3,4,8-11 and 14 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 06 May 2005 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date <u>1/27/2010</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Status of Claims

1. Claims 1, 3, 4, 8 – 11, and 14 are pending where claims 1 and 9 have been amended. Claims 2, 5 – 7, 12, and 13 have been cancelled.

Status of Previous Rejections

2. The 35 U.S.C. 112 first paragraph rejection of claims 1 and 9 has been maintained.

The 35 U.S.C. 103(a) rejection of claims 1 – 4, 6 – 11, 13, and 14 as being unpatentable over Fukaya et al. (JP 07-275920) has been maintained.

Priority

3. Receipt is acknowledged of papers submitted under 35 U.S.C. 119(a)-(d), which papers have been placed of record in the file.

Claim Rejections - 35 USC § 112

4. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

5. Claims 1 and 9 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention. Claims 1 and 9 recite the claim limitation that the descaling and/or cleaving of a metal casting are completed "only by plasma

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descaling and/or plasma cleaning” which does not have literal support in the original disclosure. The original disclosure does not recite that the descaling and/or cleaning of a metal casting is limited *only* to plasma descaling and/or plasma cleaning nor does the original disclosure teach an exemplary embodiment of the invention that only consists of plasma descaling and/or plasma cleaning. Although the original disclosure does not recite any additional methods of descaling and/or cleaning of a metal casting, the mere absence of a positive recitation is not basis for exclusion. See MPEP 2173.05(i).

Therefore, the above claim limitations in claims 1 and 9 constitute new matter.

Claim Rejections - 35 USC § 103

6. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

7. Claims 1, 3, 4, 8 – 11, and 14 are rejected under 35 U.S.C. 103(a) as being unpatentable over Fukaya et al. (JP 07-275920).

Fukaya is applied to claims 1, 3, 4, 8 – 11, and 14 as set forth in the January 21, 2010 Office action. Claims 1 and 9 have been amended.

With respect to amended instant claims 1 and 9, the abstract, paragraphs [0009] to [0012], [0021], [0025] (see English machine translation), and Fig. 1 of Fukaya disclose a method and device for continuously descaling a metal strip (metal casting), a hot-rolled strip made of stainless steel, where the metal strip is subjected to a pulling roll (stretcher-and-roller level) (9-1) before it is guided in a direction of conveyance through a device inside which it is subjected to plasma descaling. Although it is not specifically mentioned in Fukaya, it would have been obvious to one of ordinary skill in the art that

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the pulling roll would impart a high degree of flatness to the metal casting because as the metal strip is pulled it will become more flat. In addition, paragraphs [0020]-[0025] and Fig. 1 of Fukaya teach that the surface roughness of the metal strip is inspected after passing through the device for plasma descaling ([0023]) so the process can be adjusted to change the surface roughness of the processed metal strip using the vacuum arc controller (26) and computer (27). Also, Fukaya discloses in [0025] that the processing speed of the method is 10-50 mpm in order to obtain the desired surface roughness. Therefore, the speed with which the metal casting is guided through the device for plasma descaling is specified in the closed-loop control in dependence on the inspection so the desired quality of the descaling may be obtained.

Fukaya differs from instant claims 1 and 9 because it does not specifically teach that plasma descaling and/or plasma cleaning are the only steps or devices in the method or device of descaling and/or cleaning of a metal casting. Rather, [0008] and [0015]-[0018] of Fukaya teach that the descaling and/or cleaning of a metal casting of Fukaya comprises plasma descaling along with one or more of shot blasting, grinding, or light acid pickling which also descale the metal casting. However, it would have been obvious to one of ordinary skill in the art to omit the additional step of one or more of shot blasting, grinding, or light acid pickling with the expectation of possible residual scale on the metal casting ([0035]). See MPEP 2144.04 II. Fukaya also differs from instant claims 1 and 9 because it does not specifically teach that a tensile force is exerted such that a tensile stress arises in the metal casting which corresponds to at least 10% of the yield point of the metal casting material. However, it would have been

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obvious to one of ordinary skill in the art that a tensile force is exerted such that a tensile stress arises in the metal casting because as the metal strip is pulled and rolled, as disclosed in Fukaya (9-1), a tensile force is exerted on the strip. Also, it would have been obvious to one of ordinary skill in the art to apply enough tensile force to the metal casting to achieve a desired percentage of the yield point of the casting metal in order to achieve a desired flatness of the metal casting after routine optimization through experimentation. Wherein the general conditions of a claim are disclosed in the prior art, it is not inventive to discover the optimum or workable ranges by routine experimentation (see MPEP 2144.05). Finally, Fukaya differs from instant claims 1 and 9 because it does not teach that after descaling the metal is subjected to heating, in particular induction heating, and then coated with liquid metal, in particular a hot galvanizing liquid metal. However, it would have been obvious to one of ordinary skill in the art to subject the metal strip to induction heating prior to hot galvanizing because it is a well known way to heat metal and it would be useful in order to prepare the strip for hot galvanizing, which occurs at a higher temperature. Additionally, it would have been obvious to one of ordinary skill in the art to subject the metal strip to hot galvanizing, a common technique for treating stainless steel, following descaling and induction heating, because coating the stainless steel strip will make the metal more corrosion resistant and therefore extend the lifetime of the product.

Examiner's Note

8. It is noted that claim 1 lines 1-4 recite the limitation "a method for descaling and/or cleaning of a metal casting only by plasma descaling and/or plasma cleaning,

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particularly a hot-rolled strip made of normal steel or of stainless steel.” Therefore, claim 1 recites a broad limitation followed by a narrow limitation in the same claim by using the claim language “particularly.” For examination purposes the Examiner interprets the claim in the broadest sense and therefore claim 1 is only limited to a metal casting. Similarly, claim 1 lines 21-24 recite the limitation “wherein the metal casting after descaling and/or cleaning and prior to coating with liquid metal is subjected to heating, *in particular* induction heating.” Therefore, this claim recites a broad limitation followed by a narrow limitation in the same claim by using the claim language “in particular.” For examination purposes the Examiner interprets the claim in the broadest sense and therefore claim 1 is only limited to heating. In addition, claim 9 lines 1-4 recite the limitation “a device for descaling and/or cleaning of a metal casting only by plasma descaling and/or plasma cleaning, *particularly* a hot-rolled strip made of normal steel or of stainless steel.” For examination purposes the Examiner interprets the claim in the broadest sense and therefore claim 9 is only limited to a metal casting.

Response to Arguments

9. Applicant's arguments filed May 24, 2010 have been fully considered but they are not persuasive.

Arguments are summarized as follows:

a. Applicant submits that those skilled in the art would understand from the originally filed specification that only plasma descaling and/or plasma cleaning is intended since that is all that is discussed in the specification.

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b. The independent claims have been limited to only plasma descaling and/or plasma cleaning. Fukaya on the other hand carry out sand blasting of the strip in addition to descaling of the electrodes.

c. Fukaya does not teach the unique arrangement of steps recited in amended claim 1 or the construction recited in claim 9. There is no teaching in the reference of any hot galvanizing nor is there any teaching of heating after decaling and/or cleaning and then galvanizing. Additionally, Fukaya does not teach exerting a tensile force of the magnitude recited in claim 1, in combination with the other recited steps.

Examiner's responses are as follows:

a. As discussed in the above 35 U.S.C. 112 first paragraph rejection, the original disclosure does not recite that the descaling and/or cleaning of a metal casting is limited *only* to plasma descaling and/or plasma cleaning nor does the original disclosure teach an exemplary embodiment of the invention that only consists of plasma descaling and/or plasma cleaning. Although the original disclosure does not recite any additional methods of descaling and/or cleaning of a metal casting, the mere absence of a positive recitation is not basis for exclusion. See MPEP 2173.05(i). Therefore, the above claim limitations in claims 1 and 9 constitute new matter.

b. The Examiner agrees that Fukaya does not limit the method only to plasma descaling and/or plasma cleaning. However, as discussed in the above rejection, it would have been obvious to one of ordinary skill in the art to omit the

additional step of one or more of shot blasting, grinding, or light acid pickling of Fukaya with the expectation of possible residual scale on the metal casting ([0035]). See MPEP 2144.04 II.

c. The Examiner addressed the amended claim 1 and 9 limitations in the above 35 U.S.C. 103(a) rejection.

Conclusion

10. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to CAITLIN FOGARTY whose telephone number is (571)270-3589. The examiner can normally be reached on Monday - Friday 8:00 AM - 5:30 PM EST.

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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Roy King can be reached on (571) 272-1244. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/ Roy King/
Supervisory Patent Examiner, Art
Unit 1793

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